

REMARKS

Examiner Interview

Applicant thanks the Examiner for the courtesy of the telephone interview on April 15, 2008 in which the Examiner indicated that claim 1 with an amendment claiming that both filters are multichromatic filters and that each imaging channel corresponds to a different color would overcome the 102(b) rejection based on Tani.

Amendments

Amendments to the Claims

Applicant has amended the claims to more particularly point out what Applicant regards as the invention. Specifically, Applicant claims a first multichromatic filter transmitting at least two imaging channels to a first sensor and a second multichromatic filter transmitting at least two imaging channels to a second sensor, with each transmitted imaging channel corresponding to a different color. No new matter has been added as a result of these amendments because support for these amendments can be found, *intra alia*, in paragraphs 12, 13, and 17-20.

Rejections

Rejections under 35 U.S.C. § 112, second paragraph

Claim 13

Claim 13 stand rejected under 35 U.S.C. § 112, second paragraph. Applicant respectfully submits that claim 13, as amended, satisfy the requirements of 35 U.S.C § 112, second paragraph and respectfully requests the withdrawal of the rejection of the claims under § 112.

Rejections under 35 U.S.C. § 102(b)

Claims 1, 3-5, 7, 8

Claims 1, 3-5, 7, 8 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Tani, U.S. Patent 5,379,063-first interpretation ("Tani-1").

Tani-1 discloses a video device comprising two charge coupled devices (CCD). The first CCD has an infrared-cut filter that transmits the continuous spectrum of visible light of a subject. The second CCD has an infrared-cut filter and a complementary color filter that transmits four color channels of the subject.

In claims 1, 3-5, 7, and 8, Applicant claims a first multichromatic filter transmitting at least two imaging channels to a first sensor and a second multichromatic filter transmitting at least two imaging channels to a second sensor, with each transmitted imaging channel corresponding to a different color. However, Tani-1 discloses one complementary filter that transmits four color channels to one sensor and an infrared-cut filter that transmits a continuous spectrum of all visible light to the other sensor. Because Tani-1's discloses only one filter that transmits multiple color channels, Tani-1 cannot be properly interpreted as teaching or suggesting a first multichromatic filter transmitting at least two imaging channels to a first sensor and a second multichromatic filter transmitting at least two imaging channels to a second sensor, with each transmitted imaging channel corresponding to a different color as claimed.

Therefore, Applicant respectfully submits that the invention claimed in claim 1, 3-5, 7, and 8 is not anticipated by Tani-1 under 35 U.S.C. § 102(b). Accordingly, Applicant respectfully requests the withdrawal of the rejection of the claims.

Claims 1, 6 and 9-11

Claims 1, 6 and 9-11 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Tani, second interpretation ("Tani-2").

The Examiner's interpretation of Tani-2 differs from Tani-1 in that the Examiner equates the infrared-cut filter connected to the first CCD to Applicant's first filter. However, in claims 1, 6, and 9-11, Applicant claims a first multichromatic filter transmitting at least two imaging channels to a first sensor and a second multichromatic filter transmitting at least two imaging channels to a second sensor, with each transmitted imaging channel corresponding to a different color. Because Tani-2 discloses only one filter that transmits multiple color channels, Tani-2 cannot be properly interpreted as teaching or suggesting the claimed element.

Therefore, Applicant respectfully submits that the invention claimed in claim 1, 6, and, 9-11 is not anticipated by Tani-2 under 35 U.S.C. § 102(b). Accordingly, Applicant respectfully requests the withdrawal of the rejection of the claims.

Rejections under 35 U.S.C. § 103(a)

Claims 1, 2, 13-19, 21, 25-29, and 31

Claims 1, 2, 13-19, 21, 25-29, and 31 stand rejected under 35 U.S.C. § 103(a) as being obvious by Noguchi, U.S. Patent 6,885,394 (previously cited) and Examiner's Official Notice.

Noguchi discloses a photographic system with at least four CCD sensors each capable of sensing a focused image in different wavelength regions. Noguchi further discloses that the wavelength regions are clustered around a single different wavelength (e.g., see Noguchi, Figs. 3 and 5).

In independent claims 1, 13, 15, and 25, Applicant claims a first multichromatic filter transmitting at least two imaging channels to a first sensor and a second multichromatic filter transmitting at least two imaging channels to a second sensor, with each transmitted imaging channel corresponding to a different color. The Examiner admits that Noguchi does not teach two coupled sensors with each sensor sensing different groups of wavelengths and takes Official Notice that this missing element is well-known in the art. In support of this position, the Examiner cites Nice, et al. "How Digital Cameras Work." Nice discloses that it is more efficient to receive primary color information using a Bayer pattern filter with one sensor instead of using a color wheel for one sensor or multiple sensors each sensing one of the primary colors. Because Nice discloses replacing a multiple sensor arrangement with a single sensor arrangement, Nice actually teaches away from having two coupled sensors, with each sensor sensing different groups of wavelengths. Thus, because Nice teaches away from coupled sensors, the Official Notice is not properly supported and the Examiner's Official Notice is improper. Therefore, Applicant respectfully objects to such Official Notice and requests the Examiner cite other references that do support his argument.

Therefore, Noguchi and Examiner's Official Notice cannot be properly interpreted as rendering obvious Applicant's invention as claimed in claims 1, 13, 15, and 25 and

claims 2, 14, 16-19, 21, 26-29, and 31 that depend on them. Accordingly, Applicant respectfully submits that the invention claimed in claims 1, 2, 13-19, 21, 25-29, and 31 is not anticipated by Noguchi under 35 U.S.C. § 103(a) and respectfully request the withdrawal of the rejection of the claims.

Rejections under 35 U.S.C. § 103

Claims 22, 24, 32 and 34

Claims 22, 24, 32 and 34 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Noguchi in view of Vilaseca, et al. ("Spectral-reflectance reconstruction in the near-infrared region by use of conventional charge-coupled device camera measurements"). Vilaseca qualifies as prior art only under 35 U.S.C. § 102(a) based on its publication date of April 1, 2003. Applicant does not admit that Vilaseca is prior art and reserves the right to swear behind the reference at a later date.

Vilaseca discloses calculating reflectance spectra of an image in the near-infrared using a conventional CCD camera.

Claims 22, 24, 32, and 34 depend on independent claims 15 and 25. In independent claims 15 and 25, Applicant claims a first multichromatic filter transmitting at least two imaging channels to a first sensor and a second multichromatic filter transmitting at least two imaging channels to a second sensor, with each transmitted imaging channel corresponding to a different color. Because Vilaseca does not disclose the conventional CCD camera as having more than one sensor, Vilaseca cannot teach or suggest a first multichromatic filter transmitting at least two imaging channels to a first sensor and a second multichromatic filter transmitting at least two imaging channels to a second sensor, with each transmitted imaging channel corresponding to a different color as claimed. Thus, neither Noguchi nor Vilaseca teaches or suggests the claimed element.

Therefore, the combination cannot render obvious Applicant's invention as claimed in claims 15 and 25 and claims 22, 24, 32, 34 that depend on them, and Applicant respectfully requests the withdrawal of the rejection of the claims under 35 U.S.C. § 103(a) over the combination.

Claims 23 and 33

Claims 23 and 33 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Noguchi in view of Arai, U.S. Patent 5,864,834.

Arai discloses a neural network used to estimate spectral reflectance distribution of an image.

Claims 23 and 34 depend on independent claims 15 and 25. In independent claims 15 and 25, Applicant claims a first multichromatic filter transmitting at least two imaging channels to a first sensor and a second multichromatic filter transmitting at least two imaging channels to a second sensor, with each transmitted imaging channel corresponding to a different color. Because Arai does not disclose a device that captures the image, Arai cannot teach or suggest the claimed element. Furthermore, Noguchi does not teach or suggest this element.

Therefore, the combination of Noguchi and Arai cannot render obvious Applicant's invention as claimed in claims 15 and 25 and claims 23 and 33 that depend on them, and Applicant respectfully requests the withdrawal of the rejection of the claims under 35 U.S.C. § 103(a) over the combination.

New Claims

New claim 35 has been added. No new matter is added because support for these new claims is found, for example, at paragraphs 18 and 20. Applicant respectfully submits that claim 35 is allowable for at least the reasons set forth above for claim 1.

SUMMARY

Claims 1-11, 13-19, 21-29, and 31-35 are currently pending. In view of the foregoing amendments and remarks, Applicant respectfully submits that the pending claims are in condition for allowance. Applicant respectfully requests reconsideration of the application and allowance of the pending claims.

If the Examiner determines the prompt allowance of these claims could be facilitated by a telephone conference, the Examiner is invited to contact Eric Replogle at (408) 720-8300 x7514.

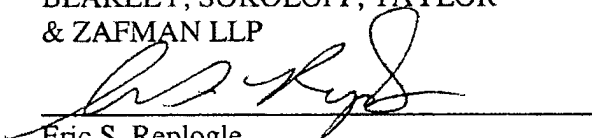
Deposit Account Authorization

Authorization is hereby given to charge our Deposit Account No. 02-2666 for any charges that may be due. Furthermore, if an extension is required, then Applicant hereby requests such extension.

Respectfully submitted,

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